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(54) **HAIR BRUSH**

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A46B 5/00 (2006.01)

A46B 9/10 (2006.01)

(52) **U.S. Cl.**

CPC **A46B 9/023** (2013.01); **A46B 5/0025** (2013.01); **A46B 5/0037** (2013.01); (Continued)

(58) **Field of Classification Search**

CPC A46B 15/00; A46B 5/0025; A46B 9/023; A46B 9/026; A46B 5/00

See application file for complete search history.

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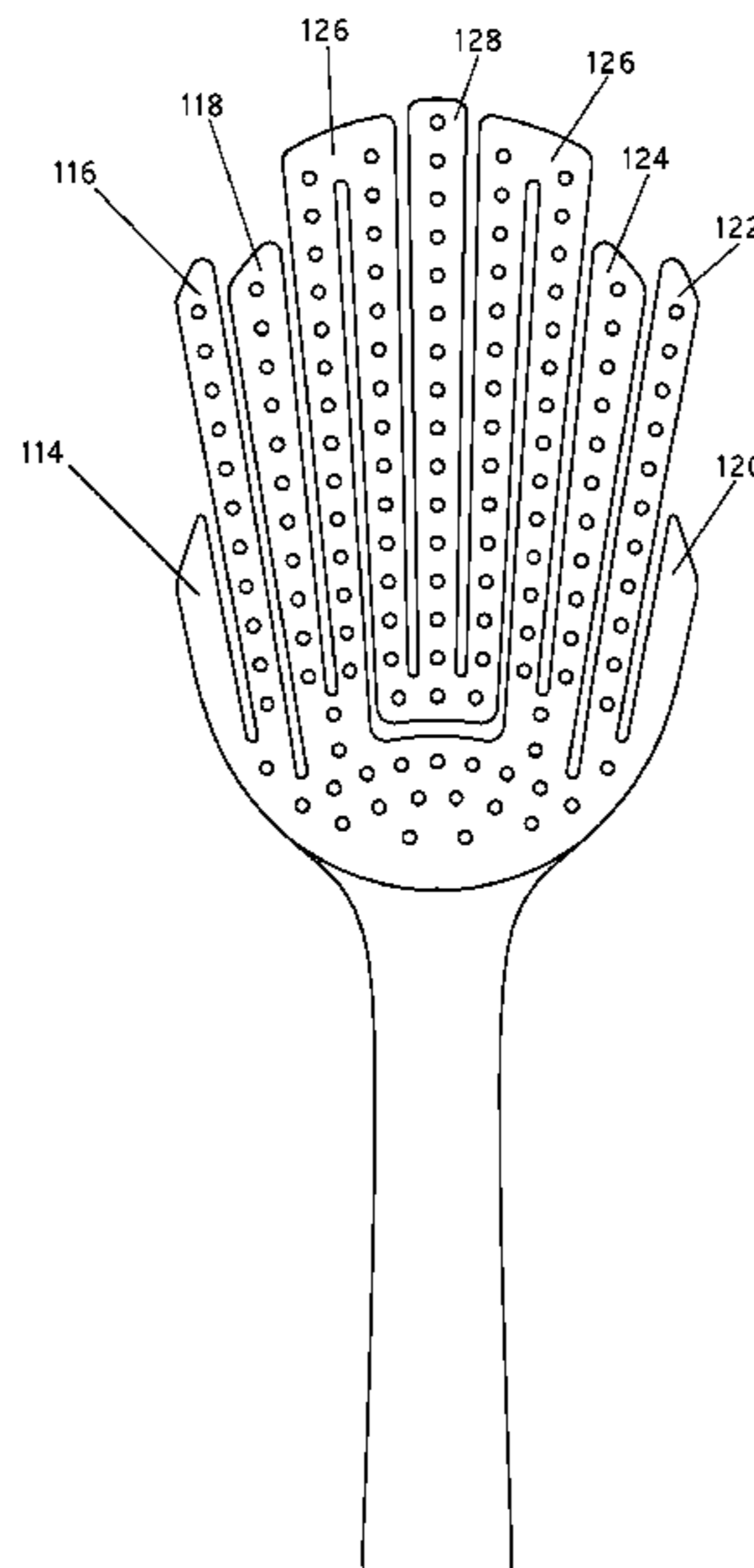
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(57) **ABSTRACT**

The present invention is concerned with a hair brush. The hair brush has an elongate profile defining a first longitudinal axis, and has a handle portion in the form of a stick sharing the first longitudinal axis and provided with a proximal end and a distal end, and the hair brush further has a utility portion extending from the distal end of the handle portion for engaging the hair and the scalp of a user during use. The utility portion has a first floating finger and a second floating finger forking off from the distal end of the handle portion and arranged at opposite lateral ends of thereof, and at least one third floating finger arranged between the first and second floating fingers. At least one or both the first and second floating fingers are free of brushing members.

12 Claims, 11 Drawing Sheets



Related U.S. Application Data

application No. 29/683,117, filed on Mar. 11, 2019,
now Pat. No. Des. 913,703.

(52) **U.S. Cl.**

CPC *A46B 5/0066* (2013.01); *A46B 9/026*
(2013.01); *A46B 9/10* (2013.01); *A46B*
2200/104 (2013.01)

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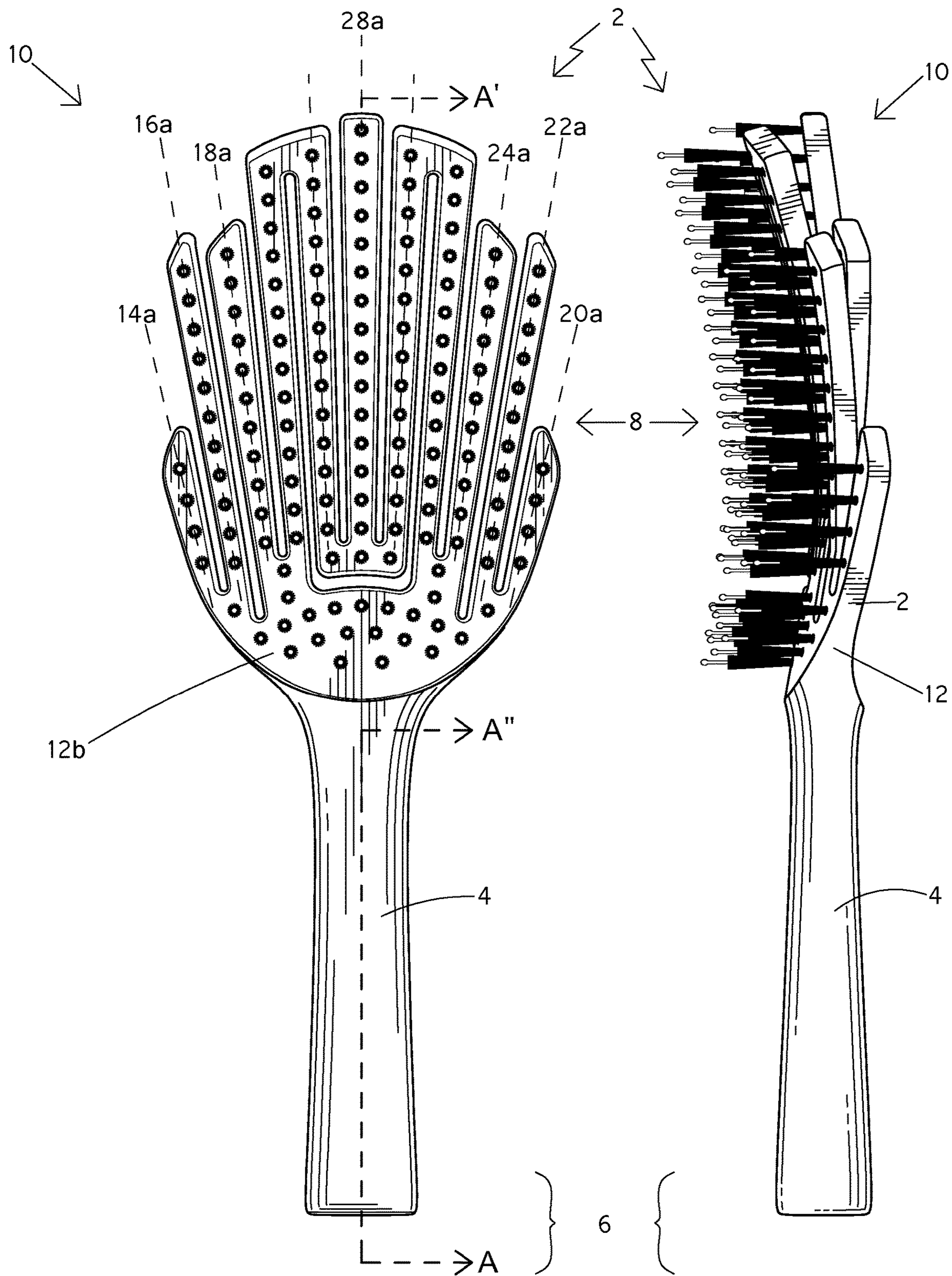


Fig.1

Fig.2

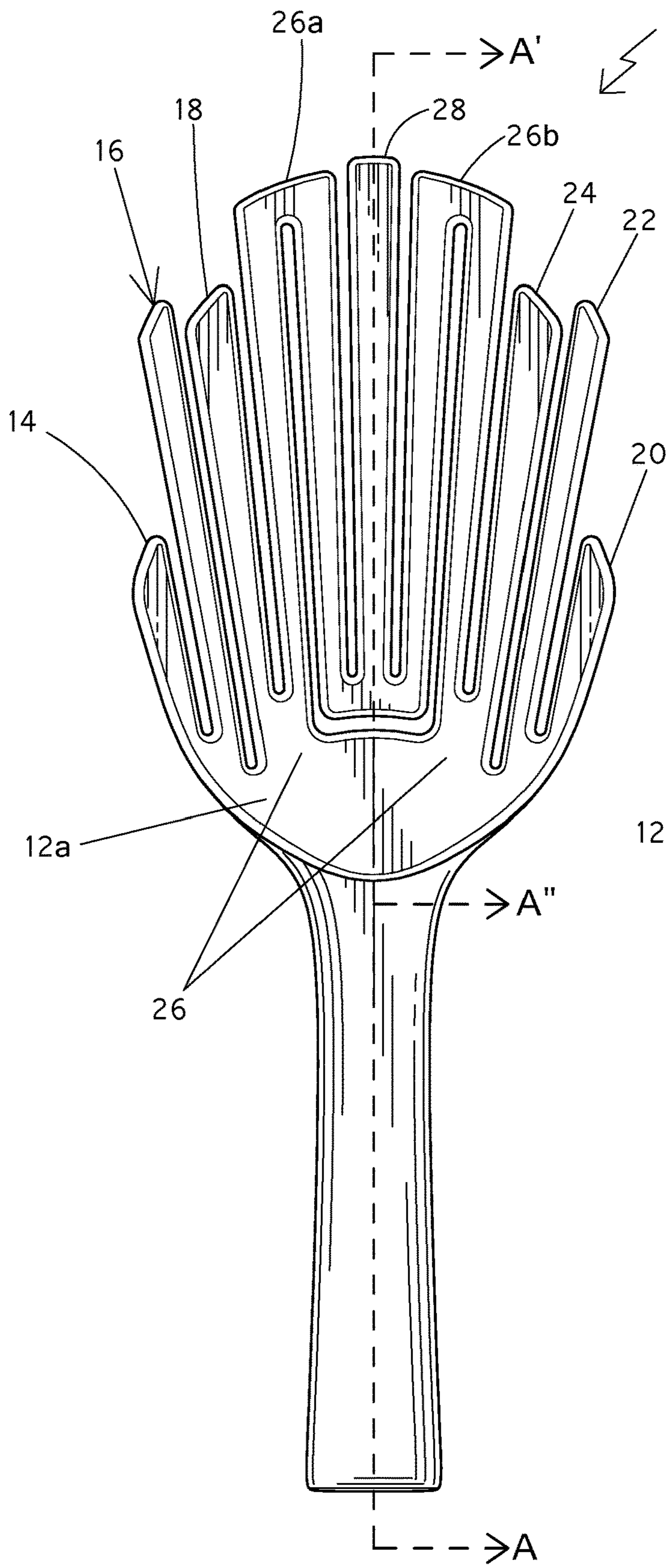


Fig. 3

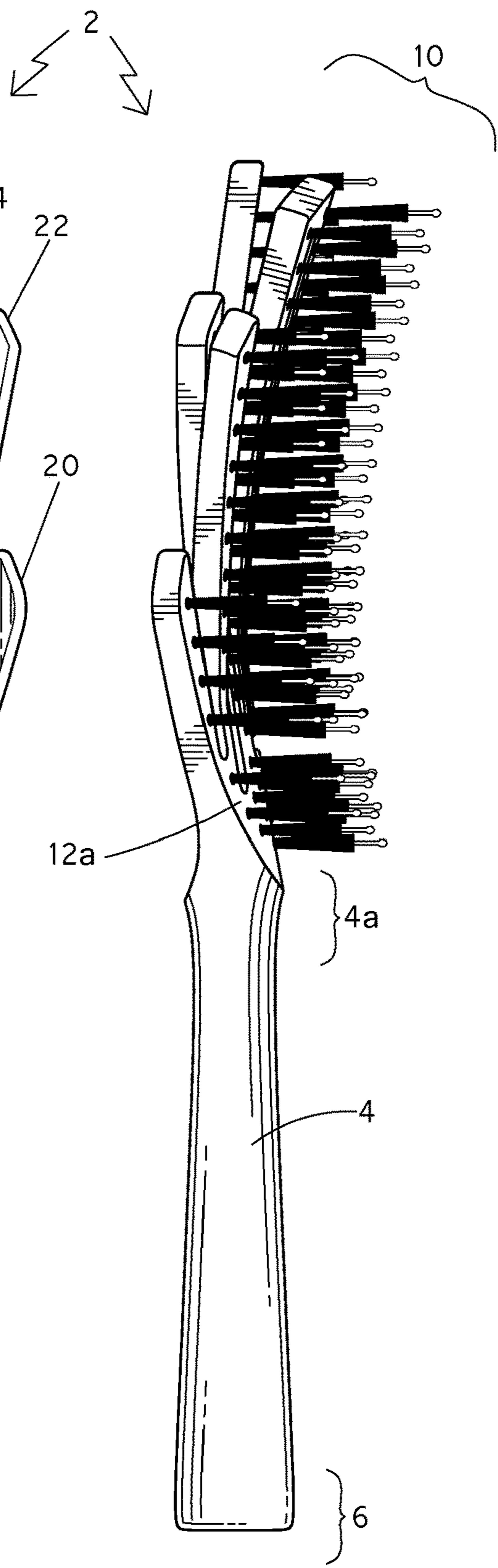
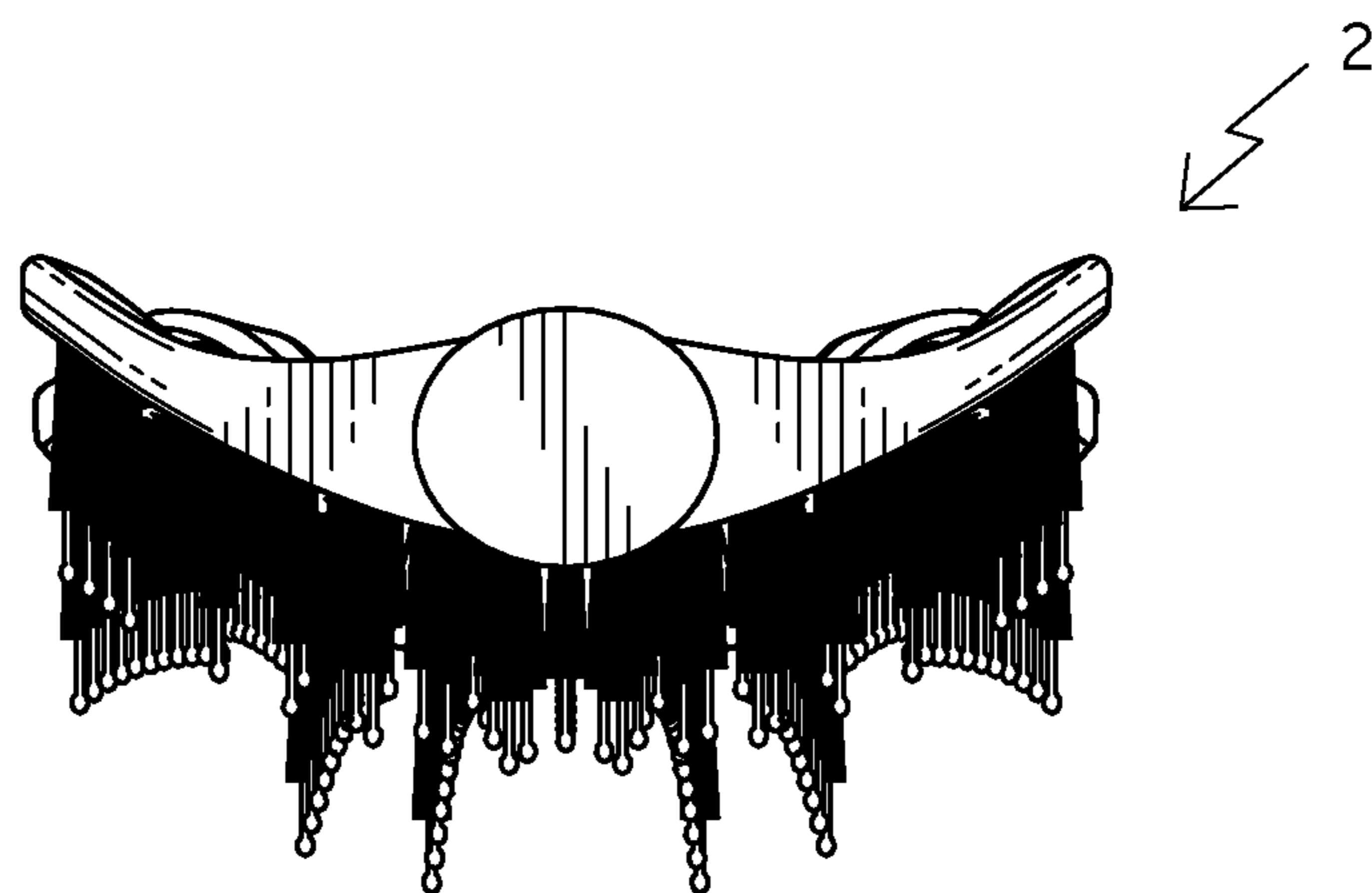
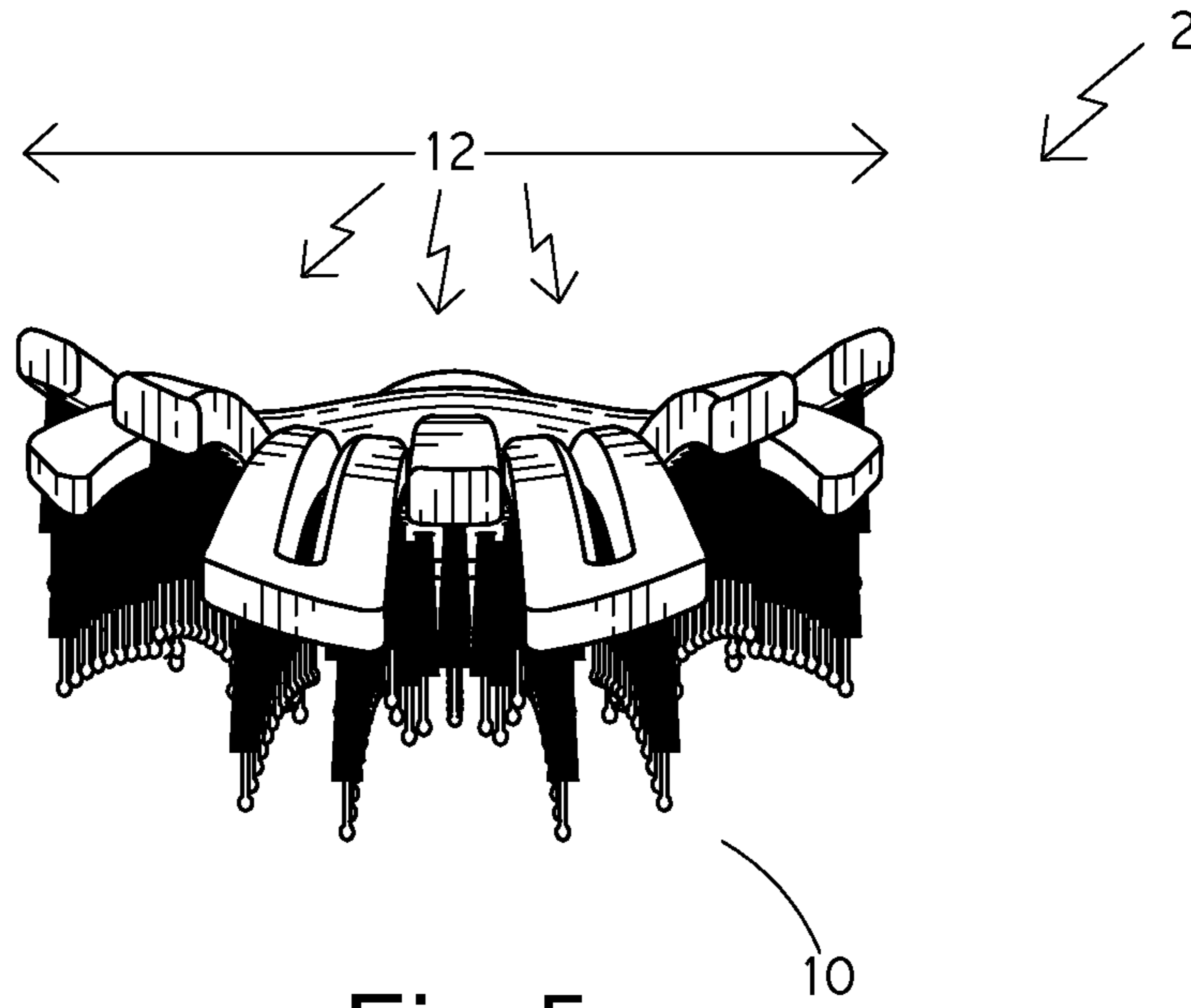


Fig. 4



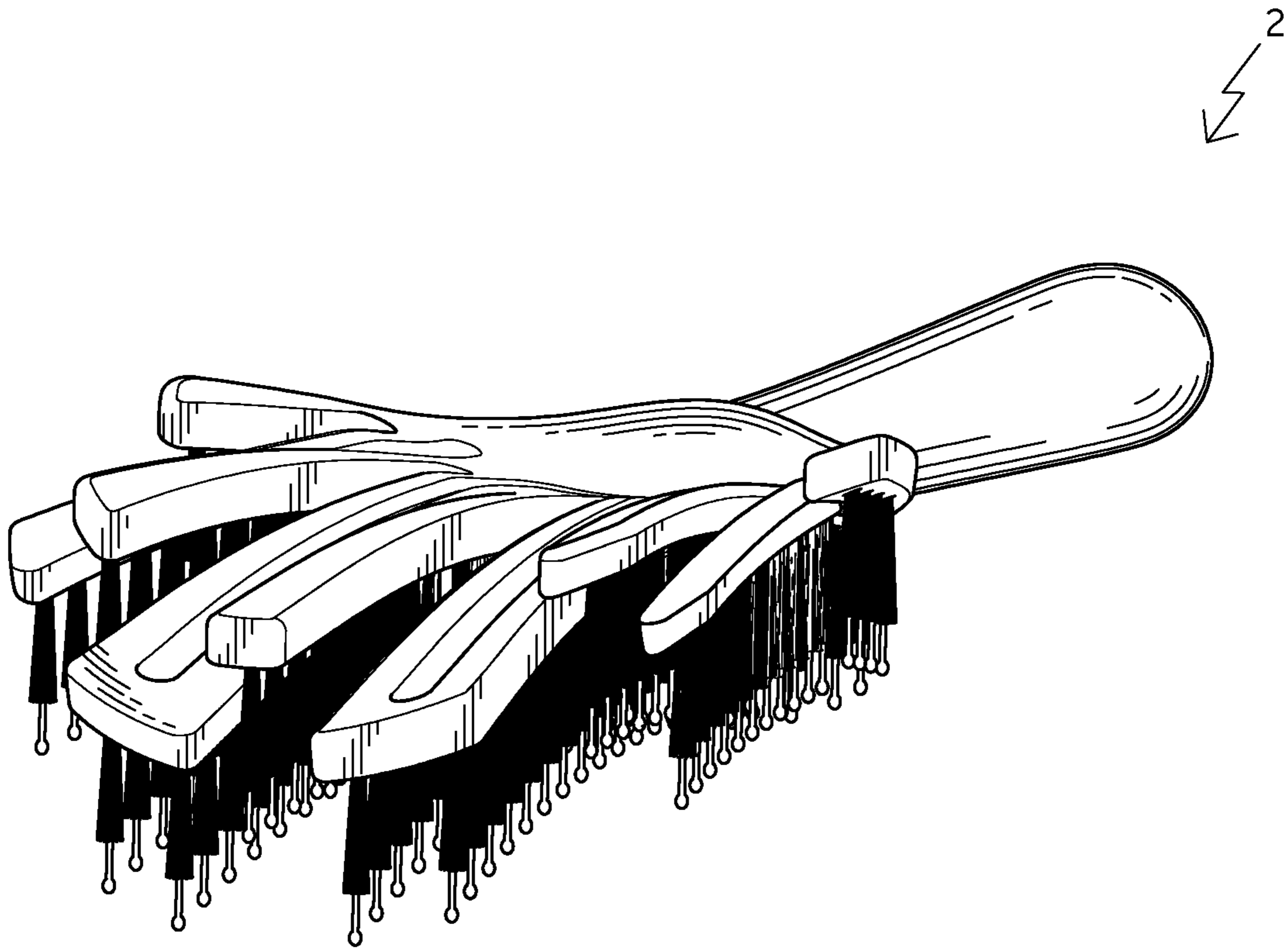


Fig. 7

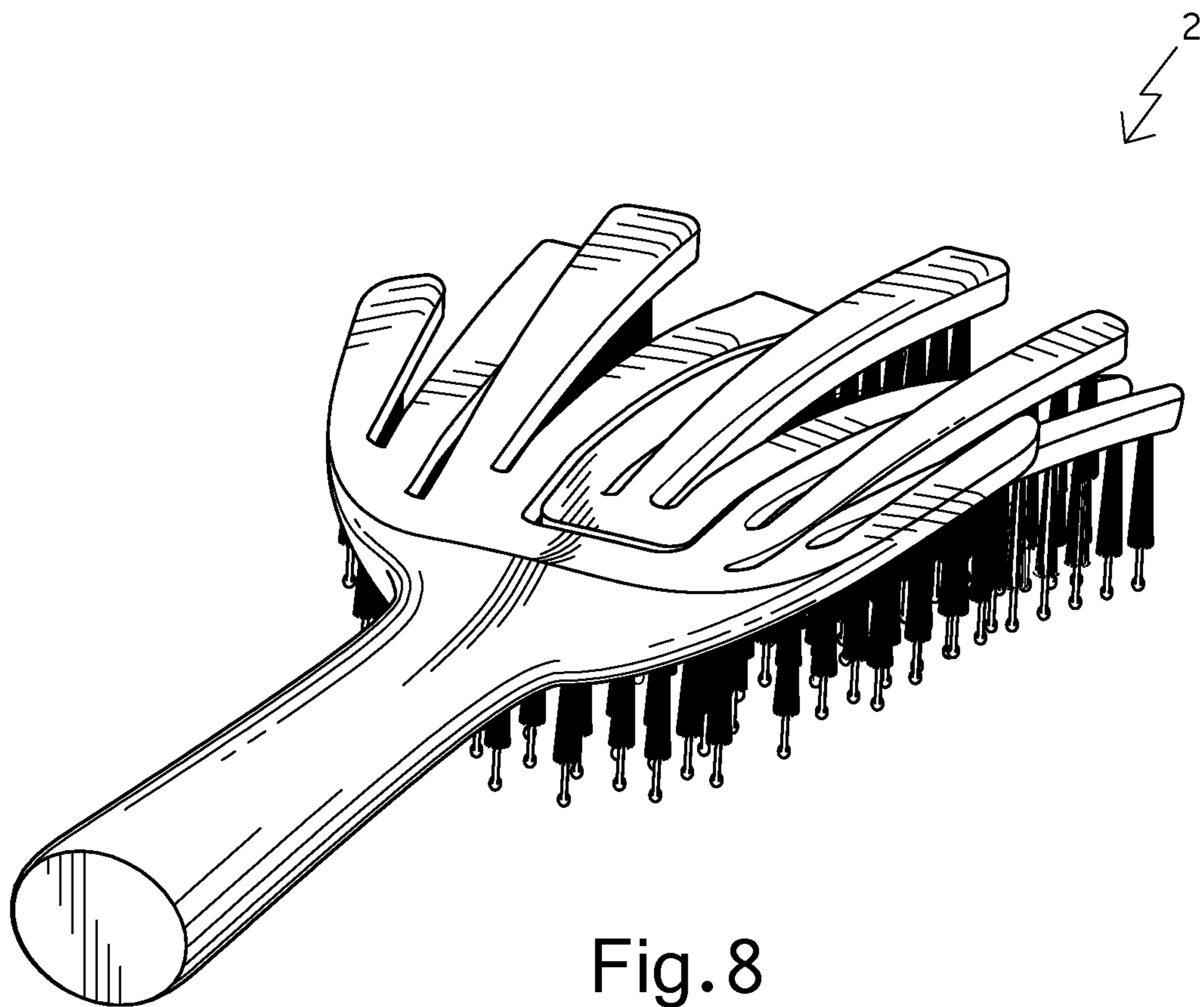


Fig. 8

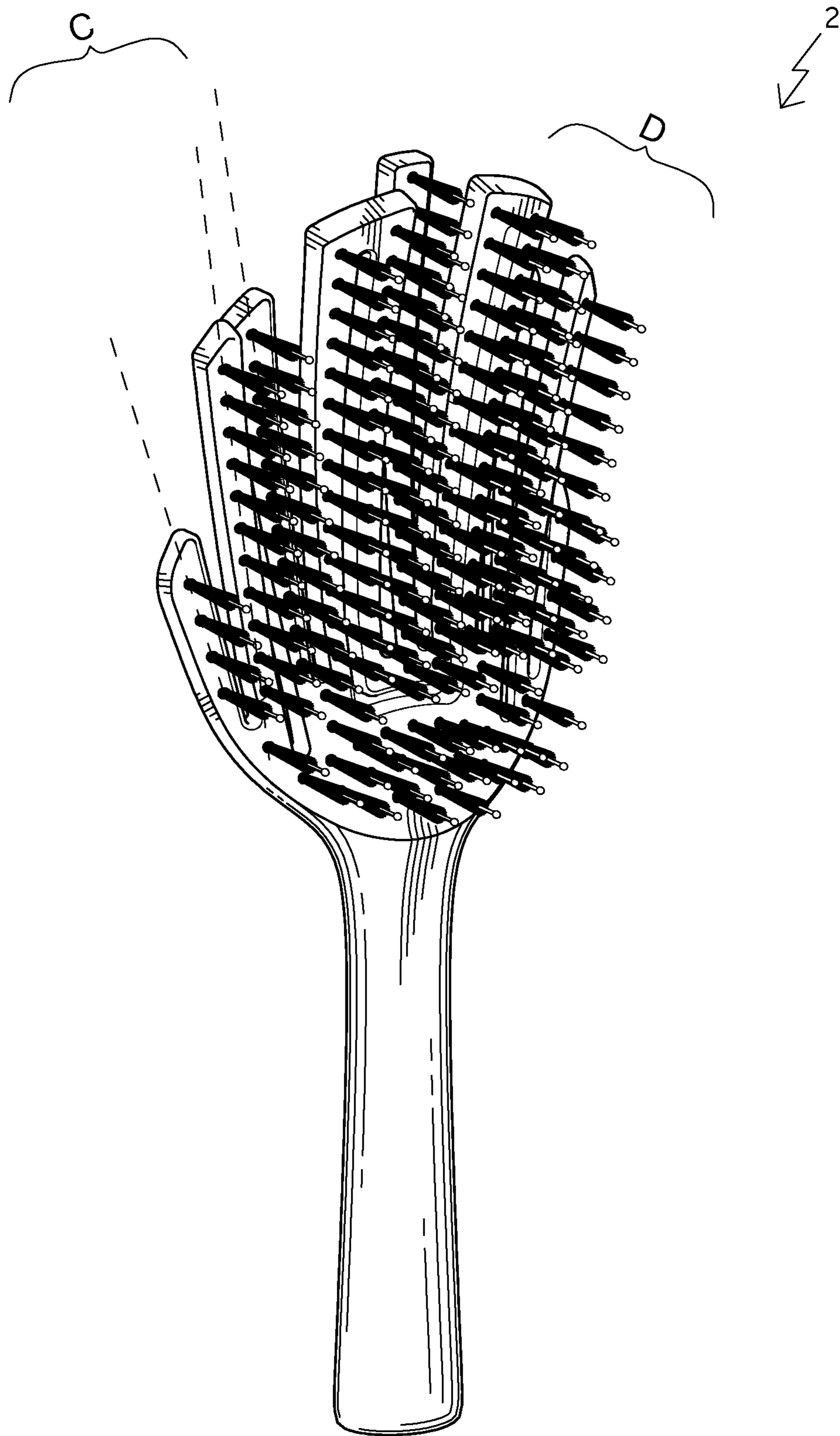


Fig. 9

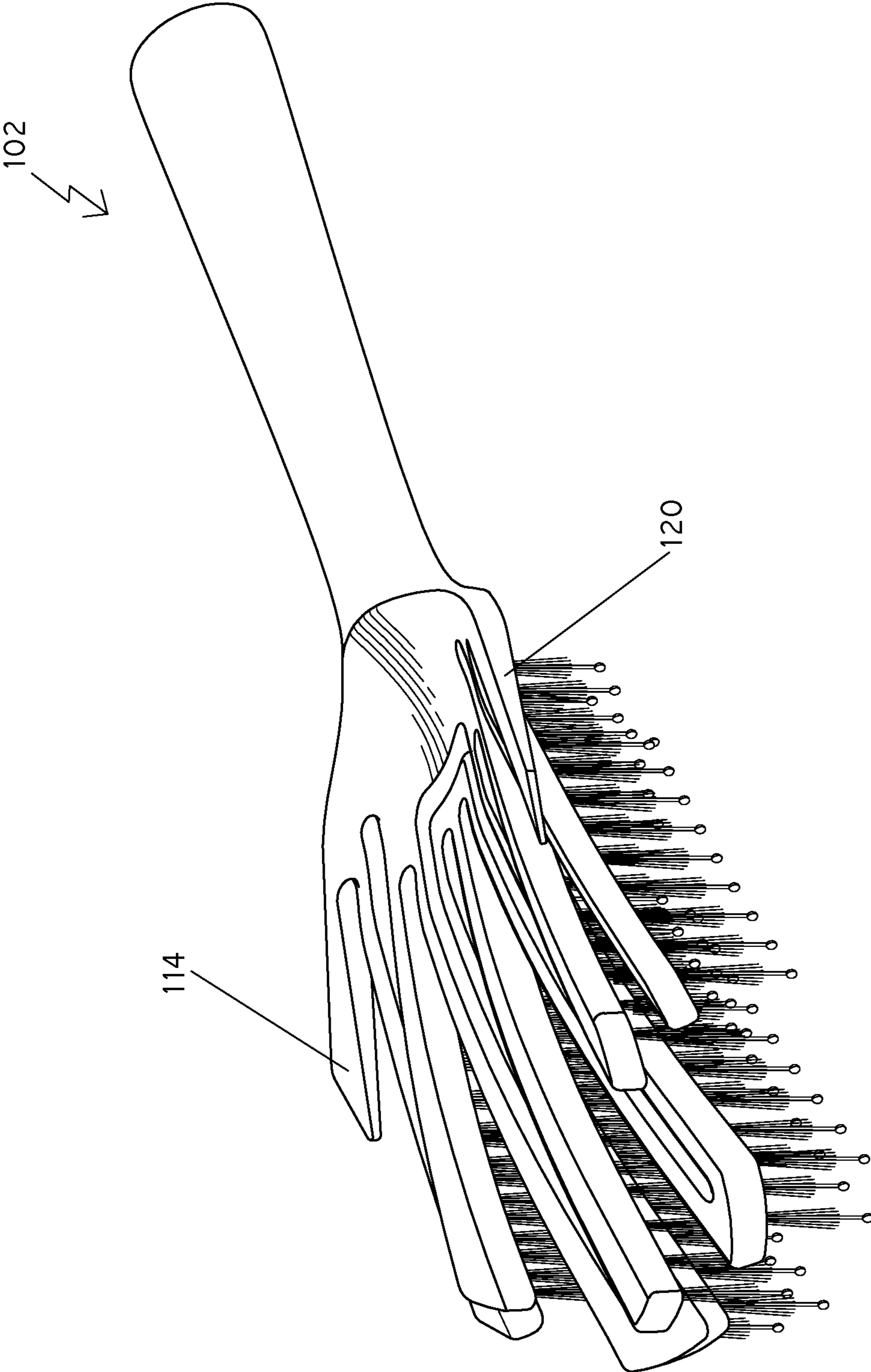


Fig. 10

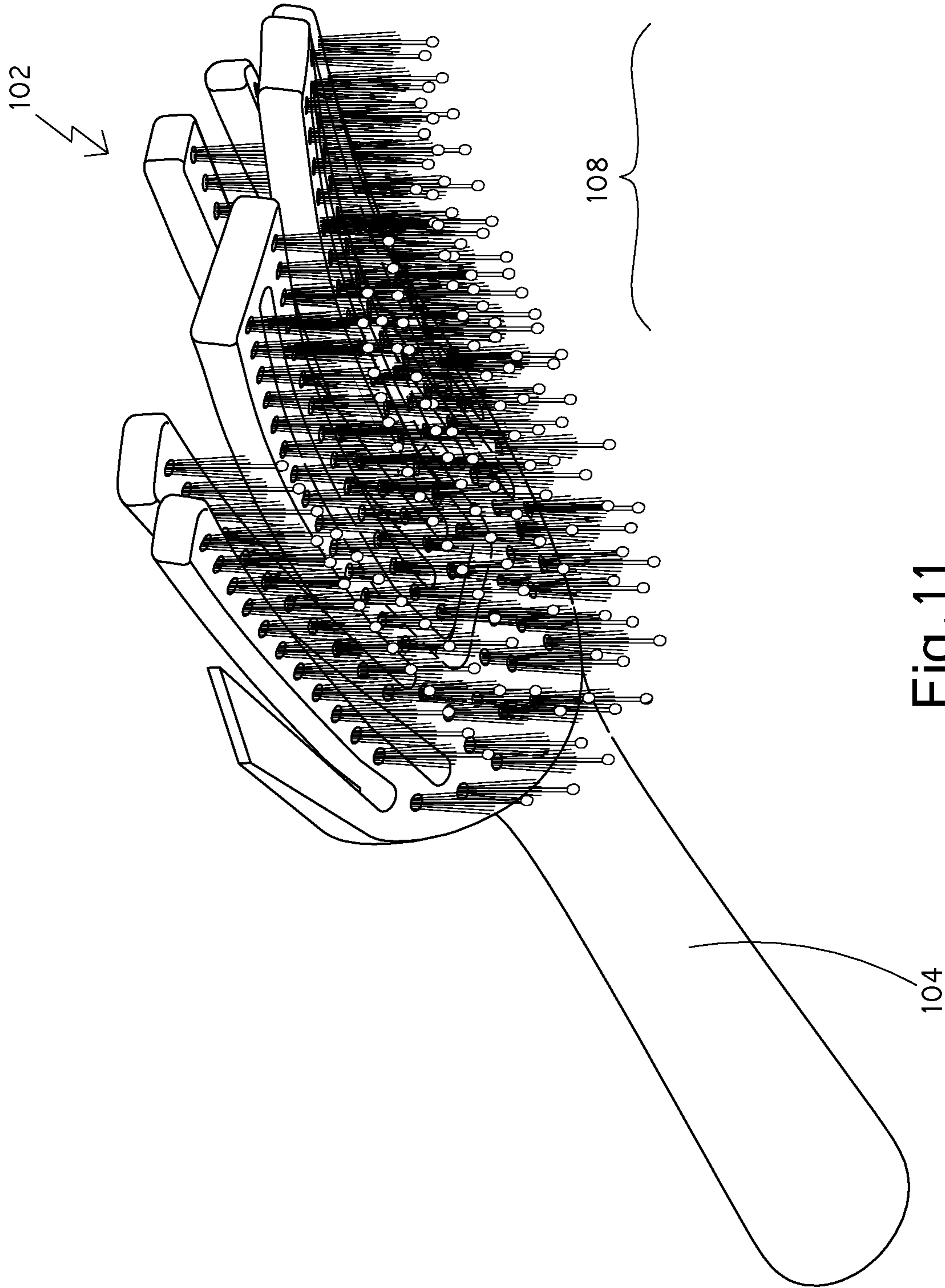


Fig. 11

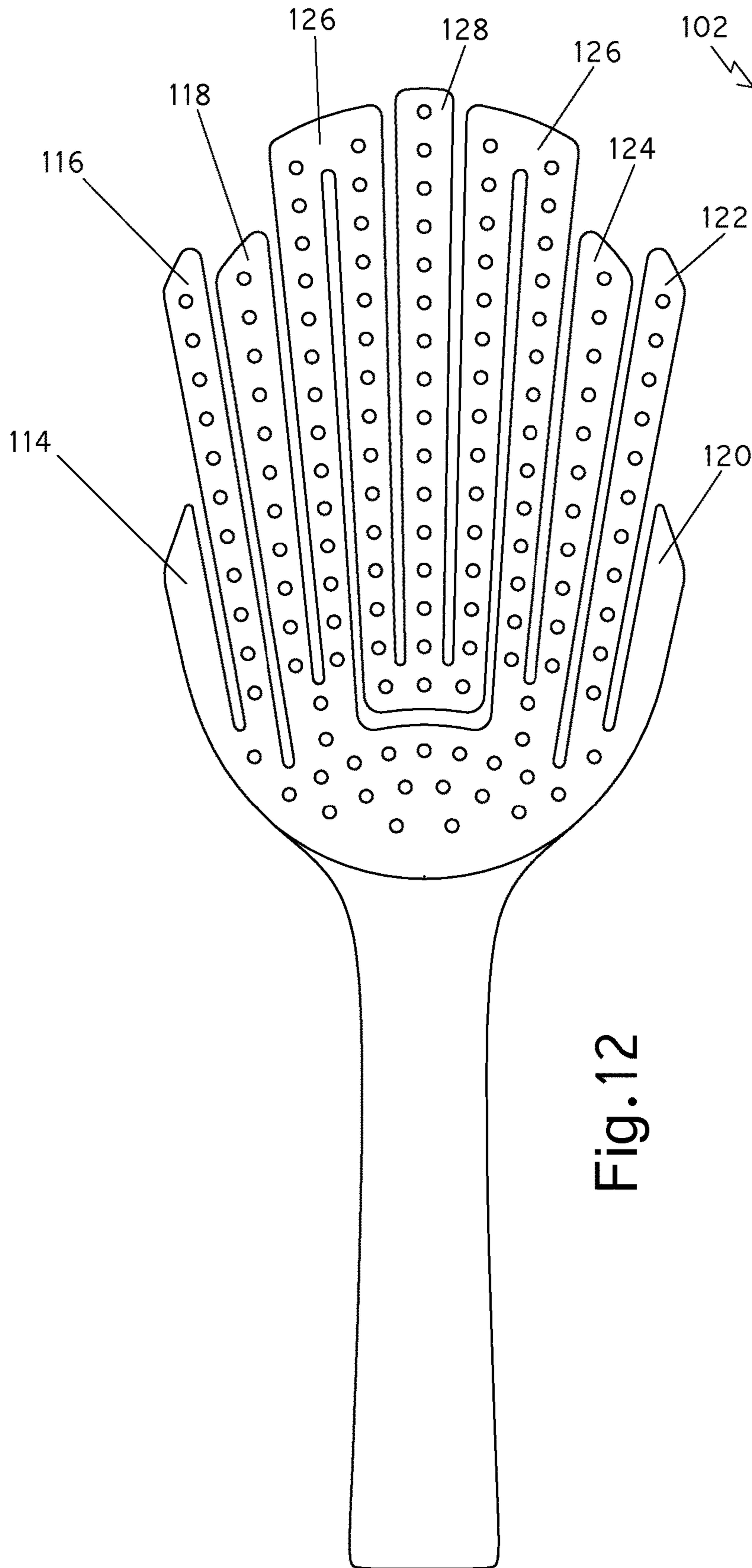


Fig. 12

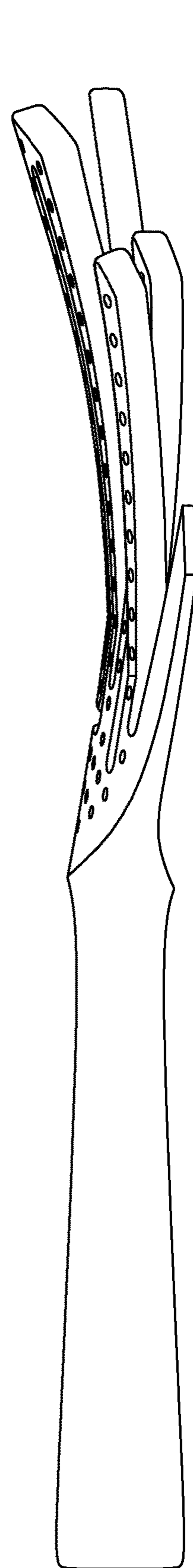


Fig. 13



Fig. 14



Fig. 15

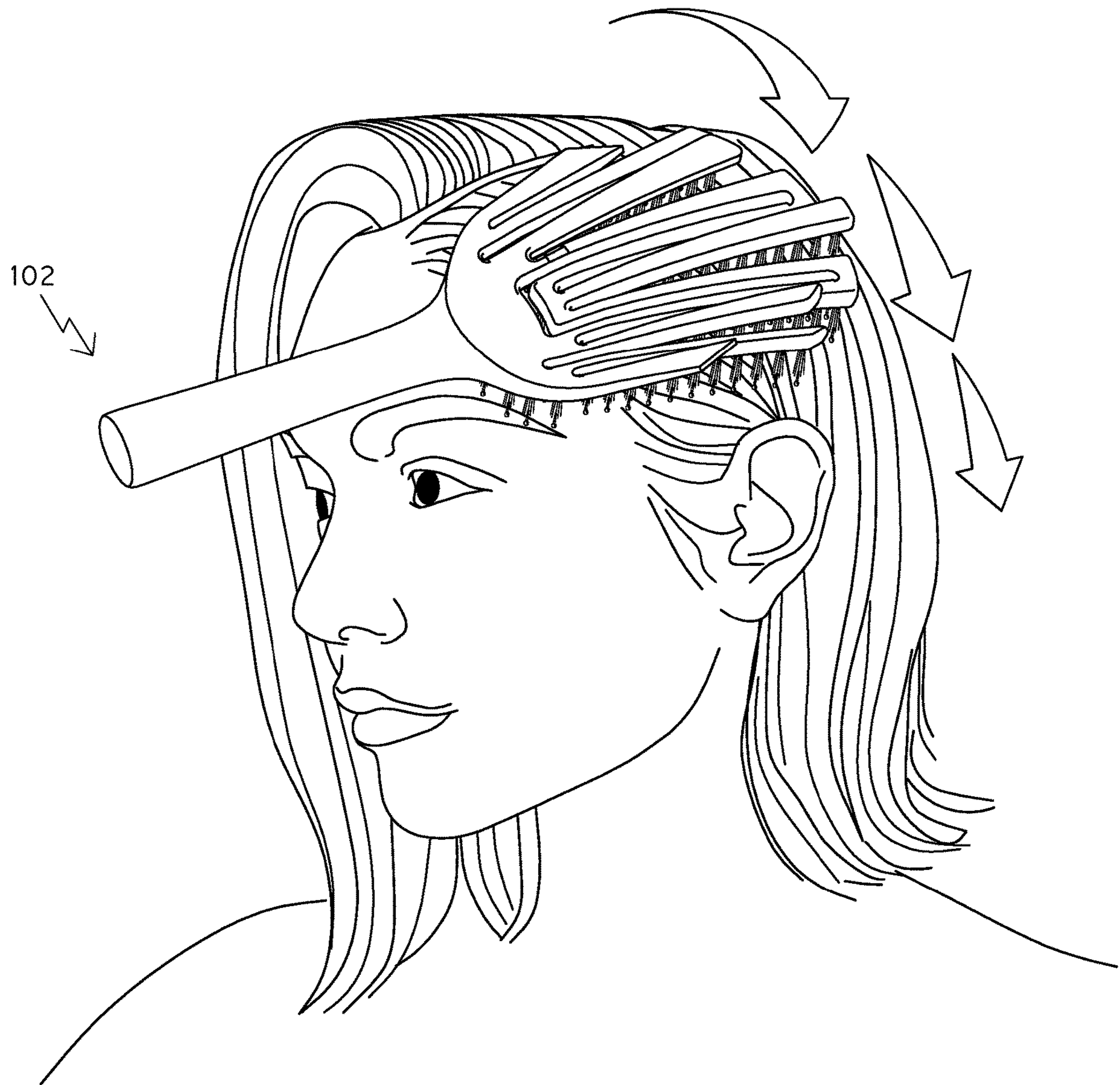


Fig.16

1**HAIR BRUSH****CROSS REFERENCE TO RELATED APPLICATIONS**

The present application claims priority from earlier filed Australian Patent Application No. 2019100795 filed Jul. 22, 2019, and is a Continuation-in-part application from earlier filed U.S. patent application Ser. No. 29/683,117 filed Mar. 11, 2019 and U.S. patent application Ser. No. 16/517,917 filed Jul. 22, 2019, contents of which are incorporated herein in their entirety.

FIELD OF THE INVENTION

The present invention is concerned with a hair comb or hair brush, and in particular one with a utility portion having a plurality fingers extending or forking off from a handle thereof, and/or movable irrespective of each other.

BACKGROUND OF THE INVENTION

There are a variety of hair management tools in the market. For example, there are various types of traditional hair combs and conventional hair brushes such as cushion hair brushes. While different hair management tools are useful in addressing different hair styling needs, there exists a need for a hair management tool which can address different regions of a hair style of a user. Further, there exists a need for a hair styling tool which can suit a variety of users with a wide ranging hair volume and thickness and style. Yet further, there also exists a need for a hair styling tool which can provide a more versatile tool to for example hair stylists.

The present invention seeks to address, for example, the aforementioned needs, or at least to provide an alternative to the public.

SUMMARY OF THE INVENTION

According to a first aspect of the present invention, there is provided a hair brush with an elongate profile defining a first longitudinal axis, the hair brush comprises a handle portion in the form of a stick sharing the first longitudinal axis and provided with a proximal end and a distal end, and the hair brush further comprises a utility portion extending from the distal end of the handle portion for engaging the hair and the scalp of a user during use, wherein:

the utility portion includes a first floating finger and a second floating finger forking off from the distal end of the handle portion and arranged at opposite lateral ends of thereof, and at least one third floating finger arranged between the first and second floating fingers;

the at least one third floating finger is provided with brushing members and is independently and flexibly movable in any direction transverse to the longitudinal axis such that the at least one third floating finger can adjust in position in response to different areas of the hair or scalp of a user, different hair configurations or head shapes of different users; and

both (or at least one of) the first and second floating fingers are free of brushing members.

Preferably, the at least one third floating finger may have a substantially uniform thickness along its length.

Suitably, the first and second floating fingers may have an elongate profile extending from the distal end of the handle

2

portion to a distal end of the hair brush, and have a relatively thicker profile at the proximal end and a relatively thinner profile at the distal end.

Advantageously, the first and second floating fingers may have a pointed end.

In an embodiment, the first and second fingers may have a tapered end.

In one embodiment, the distal end of the first and second fingers may define a thin or relatively thin edge slanting away from the utility portion.

These features, or at least some of these features are configured to facilitate parting hair into sections and/or creating a hair dividing line efficiently and effectively.

Preferably, the first and second floating fingers may be shorter in length than the third floating finger.

Suitably, the first, second and third floating members may be fanned out at the distal end of said hair brush.

Advantageously, the first and second floating fingers may have a thickness of substantially 3-5 mm at the proximal end thereof and transition to a thickness of substantially 1-2 mm at the distal end thereof.

In an embodiment, the brushing members may include bristles or filaments, or both.

In one embodiment, the bristles or filaments from the floating fingers may have the same length.

The bristles or filaments from the at least third floating fingers may have different lengths configured to reach or to provide further accommodation to different hair volume or different hair thickness.

According to a second aspect of the present invention, there is provided a hair brush with an elongate profile defining a first longitudinal axis, the hair brush comprises a handle portion in the form of a stick sharing the first longitudinal axis and provided with a proximal end and a distal end, and the hair brush further comprises a utility portion extending from the distal end of said handle portion for engaging the hair and the scalp of a user during use, wherein:

the utility portion includes at least a first floating finger and a second floating finger forking off from the distal end of the handle portion; and

both the first floating finger and the second floating finger are provided with brushing members but independently and flexibly movable in any direction transverse to the longitudinal axis such that the first and second floating members can separately adjust in position in response to different areas of the hair or scalp of a user, different hair configurations or head shapes of different users.

Preferably, the first floating finger may have an elongate profile extending from the distal end of the handle portion to a distal end of the hair brush. The second floating finger may have an overall elongate profile extending from the distal end of the handle portion to the distal end of the hair brush and an internal structure resembling a zigzagging path across a transverse plane of the hair brush. In an embodiment, the zigzagging path may take the form of a loop or closed loop. The hair brush may comprise a third floating finger with an elongate profile extending from the second floating finger.

Suitably, the hair brush, in addition to the first, second and third floating fingers, may comprise at least a fourth floating finger. The first, third and fourth floating fingers may define respective longitudinal axes which are not in parallel with each other or with the first longitudinal axis. Partly due to difference in axial configuration of the floating fingers, the brushing members extending from the floating fingers may

be configured to be able to reach different depths of hair configurations of a user during a hair styling exercise.

In an embodiment, the hair brush may comprise eight such floating members altogether. The eight floating members may be fanned out towards the distal end of the hair brush.

In one embodiment, the floating fingers may be of different lengths. For example, the floating fingers arranged on the leftmost and rightmost side may be shorter while the floating fingers arranged in the middle region of the utility portion are longer.

Advantageously, the brushing members may include bristles or filaments, or both.

In one embodiment, the bristles or filaments from the floating fingers may have the same length, for example, for ease of manufacture. In an alternative embodiment, the bristles or filaments from the floating fingers may have different lengths configured to reach or to provide further accommodation to different hair volume or different hair thickness.

In one embodiment, the first and second floating fingers may define different planes and the planes do not coincide with each other.

In some embodiments, outwardly facing sides of the first and second fingers may define respective surfaces which do not lie or share a same plane.

According to a third aspect of the present invention, there is provided a hair brush with an elongate profile defining a first longitudinal axis, the hair brush comprises a handle portion in the form of a stick sharing the first longitudinal axis and provided with a proximal end and a distal end, and the hair brush further comprises a utility portion extending from the distal end of the handle portion for engaging the hair and the scalp of a user during use, wherein:

the utility portion includes at least a first floating finger and a second floating finger forking off from the distal end of the handle portion; and

the first and second floating fingers define different planes in that the planes do not coincide with each other.

Preferably, both the first floating finger and the second floating finger may be provided with brushing members but independently and flexibly movable in any direction transverse to the first longitudinal axis such that the first and second floating members can separately adjust in position in response to different areas of the hair or scalp of a user, different hair configurations or head shapes of different users.

Suitably, the first floating finger may have an elongate profile extending from the distal end of the handle portion to a distal end of said hair brush, the second floating finger may have an overall elongate profile extending from the distal end of the handle portion to the distal end of the hair brush and an internal structure resembling a zigzagging path across a transverse plane of the hair brush, the hair brush may comprise a third floating finger with an elongate profile extended from the second floating finger, and the utility portion, in addition to the first and second floating fingers, may comprise at least a fourth floating finger.

In an embodiment, the first, second, third and fourth floating fingers may define respective longitudinal axes which are not in parallel with each other.

Partly due to difference in axial configuration of the floating fingers, the brushing members may be configured to be able to reach different depths of hair configurations of a user during a hair styling exercise.

BRIEF DESCRIPTION OF PREFERRED EMBODIMENTS OF THE INVENTION

Some embodiments of the present invention will now be explained, with reference to the accompanied drawings, in which:—

FIGS. 1 and 3 are top and bottom views of a first embodiment of a new hair brush design according to the present invention;

FIGS. 2 and 4 are opposite side views of the hair brush of FIG. 1;

FIGS. 5 and 6 are front and rear views of the hair brush of FIG. 1;

FIGS. 7, 8 and 9 are different perspective views of the hair brush of FIG. 1;

FIG. 10 is a bottom perspective view of a second embodiment of a hair brush design according to the present invention;

FIG. 11 is a top perspective view of the hair brush of FIG. 10;

FIGS. 12-13 are a top view and a side view of the hair brush of FIG. 10, respectively, but with brushing members removed; and

FIGS. 14-16 are different schematic views showing the hair brush in use.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS OF THE INVENTION

The present invention is concerned with a hair brush, and is illustrated and explained by way of embodiments below with reference to the accompanied drawings. A first embodiment of a hair brush is shown in FIGS. 1 to 9. The hair brush, generally designed 2, has an elongate profile extending from a proximal end to a distal end thereof.

FIGS. 1 and 2, for example, show the hair brush 2 in that it comprises a handle portion 4 at the proximal end 6 and a utility portion 8 at the distal end 10. In use, a user would hold on to the handle portion 4 to control or otherwise maneuver movement of the utility portion 8 such that the utility portion 8 engages hair and scalp of the user for hair management in a hair styling exercise. The elongate hair brush 2 defines a longitudinal axis A-A' illustrated in, for example, FIGS. 1 and 3.

The handle portion 4 is in the form of a stick handle and likewise has a proximal end and a distal end. The handle portion with a longitudinal axis A-A" extends along the longitudinal axis A-A' of the hair brush 2. Please see FIG. 3.

Referring to FIG. 4, the utility portion 8 extends from a distal end 4a of the handle portion 4 to the distal end 10 of the hair brush 2. FIG. 5 shows the distal end 10 of the hair brush 2 while FIG. 6 shows the proximal end 6 of the handle portion 4/hair brush 2. The utility portion 8 includes a support member 12 defining a rearwardly facing surface 12a (see FIGS. 2-4) and a forwardly facing surface 12b from which brushing members 14 extend (see FIGS. 1-2 and 4). The oppositely pointing arrows in FIG. 5 show the support member 12 laterally extending. In use, the forwarding facing surface 12b (as shown in FIG. 1) faces the user while the rearwardly facing surface 12a (as shown in FIG. 3) faces away the user. In this embodiment, the support member 12 of the utility portion 8 and the handle portion 4 are integrally formed, for example, by injection molding in one injection molding step.

The utility portion 8 is provided with a plurality of members extending from the proximal end to the distal end thereof. While the plurality of members are different in

5

configuration they generally resemble elongate fingers and the support member 12 of the utility portion 8 as a whole resemble a palm with the multiple fingers extending therefrom. In this embodiment, the plurality of fingers can be classified into three categories.

A first category of the elongate members include finger 14. Referring to FIG. 3, the finger 14, it is the shortest or one of the shortest among the fingers. It is arranged at a farthest lateral side of the utility portion 8. Further towards an inner region of the supporting member 12 is provided with fingers 16, 18. The fingers 16, 18 are similar to the finger 14 although they are longer and/or wider than the finger 14. Fingers 20, 22, 24 generally correspond to the fingers 14, 16, 18, respectively, in profile, except they arranged at the opposite lateral side of the utility portion 8.

A second category of the elongate members include finger 26 which has a more complicated structure. Specifically, while its overall configuration is also elongate in profile, it extends from the base of the utility portion 8 and has a zigzagging structure formed from a loop or closed path. The zigzagging structure defines a recess or a gap sandwiched by two symmetric prongs 26a, 26b.

A third category of the elongate members includes finger 28. The finger 28 is positioned between the two prongs 26a, 26b and extends from a base region of the finger 26 to the distal end of the hair brush 2.

Regardless of the configuration of the fingers 14, 16, 18, 20, 22, 24, 26, 28, they all generally extend from the proximal end to the distal end of the utility portion 8. Specifically, the fingers 14, 16, 18, 20, 22, 24, 26 extend and fork off from a base region of the support member 12 towards the distal end of the utility portion 8.

In addition to the difference of the configuration of the different fingers 14, 16, 18, 20, 22, 24, 26, 28, they also differ with respect to their dimensional or special orientations. FIG. 1 illustrates that the fingers define their respective longitudinal axes 14a, 16a, 18a, 20a, 22a, 24a, 28a along their respective lengths. These longitudinal axes 14a, 16a, 18a, 20a, 22a, 24a, 28a are not in parallel with each other. Further, these longitudinal axes 14a, 16a, 18a, 20a, 22a, 24a, 28a and the longitudinal axis of the hair brush 2 or the handle portion 4 are not in parallel with each other.

The finger 26 includes the two prongs resembling two wings, and a first prong 27a and a second prong 27b define their respective longitudinal axes. These longitudinal axes are not in parallel with each other.

The forking off or fanning apart of the elongate fingers 14, 16, 18, 20, 22, 24, 26, 28 from the base region of the support member 12 explains the respective longitudinal axes of the elongate fingers with different orientations.

FIG. 7 and FIG. 8 illustrate another aspect of characteristics of the elongate fingers. The elongate fingers are different not only in that their respective longitudinal axes are not in parallel with each other. They are also different in that the longitudinal axes do not lie on a same plane. Specifically, FIG. 7 illustrates the different fingers resembling different keys of a piano keyboard depressed with different extent. Each of the fingers generally takes the form of a broad strip member and can be viewed as a piano key defining a lateral plane across the key. The different fingers thus resemble the different keys defining the respective different planes. As shown in, for example, FIG. 8, the different planes do not coincide with each other.

In this embodiment, the hair brush 2 is provided with eight elongate fingers. The brushing members extending from the forwardly facing surface thereof are made of a plurality of tufts including a combination of bristles and

6

filaments. Also in this embodiment, the tufts from the fingers are of the same length for ease of manufacture. Alternatively, the tufts of the brushing members may be of different lengths. With this different construction, the utility portion 2 can produce an even larger extent or degree of accommodation to different volume, thickness and configuration of hair styles.

The proximal ends of the fingers are relatively narrower or thinner compared to distal ends. In any event, the fingers are configured such that they are flexibly movable. While the fingers define their respective longitudinal axes and they are resiliently flexible, they can resiliently and independently movable with their respective moving paths thus resembling floating fingers when the fingers engage with the hair and scalp of a user using a hair styling exercise and the fingers float in response. FIG. 7 shows that some of the fingers are more forwardly positioned while some are more rearwardly positioned. Some of the fingers are longer and some are shorter. Some are more adjustable and some are less. As such, the different fingers create a vast variation of finger moving patterns allowing the brushing members to cater to a vast variety of hair volumes, hair configurations and hair styles of different users. In addition, when a single user has different hair conditions in different regions of the hair style, the hair brush can also cater the hair styling needs of the different regions.

FIG. 9 further illustrates the spatial arrangement of the different fingers. The respective longitudinal axes are non-parallel with each other. Please see sign labeled "C", and the respective lateral extending planes defined by the piano-resembling fingers do not coincide or align with each other.

FIGS. 10-16 is concerned with a second embodiment of a hair brush according to the present invention. The hair brush, generally designed 102, similarly, has an elongate profile extending from a proximal end to a distal end thereof. For sake of brevity, the following focuses on the differences between the hair brush 2 and the hair brush 102, and features of the hair brush 102 similar to those of the hair brush 2 are not repeated hereinafter.

FIGS. 10-11 show bottom perspective view and top perspective view of the hair brush 102. One difference between the brush 102 and the brush 2 is that the brush 2 has a utility portion 108 with two floating fingers 114, 120 extending from a distal end of a handle portion 104 and are arranged on opposite farthest lateral ends of the utility portion 108. Specifically, these two fingers 114, 210 are free of brushing members. In alternative embodiments, at least one of these two floating fingers 114, 120 is free of brushing members.

In this embodiment, the utility portion has seven additional fingers 116, 118, 126, 128, 124, 122 arranged between the fingers 114, 120. As clearly shown in FIGS. 10, 11 and 13, the seven floating fingers 116, 118, 126, 128, 124, 122 sandwiched by the two floating fingers 114, 120 have a substantially uniform thickness along its length. To the contrary, the two floating fingers 114, 120 with an elongate profile extending from the distal end of the handle portion 104 to a distal end of the hair brush 102 have a relatively thicker profile at the proximal end and a relatively thinner profile at the distal end. Further, the two floating fingers 114, 120 have a pointed end. In this embodiment, the two floating fingers 114, 120 have a tapered end. The distal end of the two floating fingers 114, 120 defines a thin edge slanting away from the utility portion 108 configured to part hair into sections and/or creating a hair dividing line.

The two floating fingers 114, 120 are shorter in length than the floating fingers 116, 118, 126, 128, 124, 122

7

arranged therebetween. The two floating fingers **114, 120** and the seven floating fingers **116, 118, 126, 128, 124, 122** arranged therebetween are fanned out at the distal end of the hair brush **102**. The two floating fingers **114, 120** are stiffer while the seven floating fingers **116, 118, 126, 128, 124, 122** arranged therebetween are more flexible.

In this embodiment, the two floating fingers **114, 120** have a thickness of 3-5 mm at the proximal end thereof and transition to a thickness of 1-2 mm at the distal end thereof.

It should be understood that certain features of the invention, which are, for clarity, described in the content of separate embodiments, may be provided in combination in a single embodiment. Conversely, various features of the invention which are, for brevity, described in the content of a single embodiment, may be provided separately or in any appropriate sub-combinations. It is to be noted that certain features of the embodiments are illustrated by way of non-limiting examples. For example, with respect to the second embodiment, the two floating fingers on the opposite lateral ends are free of brushing members. However, in alternative embodiments, at least one, or only one, of the two floating fingers is free of the brushing members. Also, a skilled person in the art will be aware of the prior art which is not explained in the above for brevity purpose.

The invention claimed is:

1. A hair brush with an elongate profile defining a first longitudinal axis, said hair brush comprises a handle portion in the form of a stick sharing the first longitudinal axis and provided with a proximal end and a distal end, and said hair brush further comprises a utility portion extending from the distal end of said handle portion for engaging the hair and the scalp of a user during use, wherein:

said utility portion includes a laterally extending support member defining a rearwardly facing surface and a forwardly facing surface from which brushing members extend;

said utility portion includes a first floating finger and a second floating finger forking off from the distal end of said handle portion and arranged at opposite lateral ends of thereof, and at least one third floating finger arranged between the first and second floating fingers; said at least one third floating finger is provided with the or some of the brushing members and is independently and flexibly movable in any direction transverse to the longitudinal axis such that said at least one third

8

floating finger can adjust in position in response to different areas of the hair or scalp of a user, different hair configurations or head shapes of different users; and

both said first and second floating fingers of the support member are free of any brushing members.

2. A hair brush as claimed in claim **1**, wherein said at least one third floating finger has a substantially uniform thickness along its length, and said first floating finger, said second floating finger and said at least one third floating finger fan apart from a base of the support member.

3. A hair brush as claimed in claim **2**, wherein said first and second floating fingers have an elongate profile extending from the distal end of said handle portion to a distal end of said hair brush, and have a relatively thicker profile at the proximal end and a relatively thinner profile at the distal end.

4. A hair brush as claimed in claim **3**, wherein said first and second fingers have a tapered end.

5. A hair brush as claimed in claim **3**, wherein the distal end of the first and second fingers define a thin edge slanting away from the utility portion configured to part hair into sections and/or creating a hair dividing line.

6. A hair brush as claimed in claim **3**, wherein, said first and second floating fingers are shorter in length than said third floating finger.

7. A hair brush as claimed in claim **3**, wherein said first and second floating fingers have a pointed end.

8. A hair brush as claimed in claim **1**, wherein said first, second and third floating members are fanned out at the distal end of said hair brush.

9. A hair brush as claimed in claim **1**, wherein said first and second floating fingers have a thickness of 3-5 mm at the proximal end thereof and transition to a thickness of 1-2 mm at the distal end thereof.

10. A hair brush as claimed in claim **1**, wherein said brushing members include bristles or filaments, or both.

11. A hair brush as claimed in claim **10**, wherein said bristles or filaments from said floating fingers have the same length.

12. A hair brush as claimed in claim **10**, wherein said bristles or filaments from said at least third floating fingers have different lengths configured to reach or to provide further accommodation to different hair volume or different hair thickness.

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